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PATENT APPLICATION

ATTORNEY DOCKET NO. 200314645-1

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Daryl E. Anderson et al.

Confirmation No.: 2920

Application No.: 10/757,104

Examiner: BODDIE, William

Filing Date: January 13, 2004

Group Art Unit: 2629

Title: A Temperature Compensated MEMS Device

Mail Stop Appeal Brief - Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on December 29, 2008 .

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

No fee is required for filing of this Reply Brief.

If any fees are required please charge Deposit Account 08-2025.

Respectfully submitted,

Daryl E. Anderson et al.

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**REPLY BRIEF**

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Sir:

This is a Reply Brief under Rule 41.41 (37 C.F.R) in response to the Examiner's Answer of December 29, 2008 (the "Examiner's Answer" or the "Answer"). In Section 10, the Answer contains a response to some of the arguments made in Appellant's brief. Appellant now responds to the Examiner's Answer as follows.

**Status of Claims**

Claims 9, 22 and 55-62 have been cancelled previously without prejudice or disclaimer. Thus, claims 1-8, 10-21, 23-54 and 63 are pending in the application and stand finally rejected. Accordingly, Appellant appeals from the final rejection of claims 1-8, 10-21, 23-54 and 63, which claims are presented in the Appendix.

**Grounds of Rejection to be Reviewed on Appeal**

The final Office Action raised the following grounds of rejection.

(1) Claims 1, 12, 13, 24 and 31 were rejected as being unpatentable under 35 U.S.C. § 103(a) over what the Action characterizes as Appellant's Admitted Prior Art ("APA") in combination with the teachings of U.S. Patent No. 7,197,225 to Romo et al. ("Romo").

(2) Claims 2, 3, 5-8, 14-16, 18-21, 25, 26, 28, 29, 32, 33, 35-38, 56 and 63 were rejected under 35 U.S.C. § 103(a) over the combined teachings of the APA, Romo and U.S. Patent No. 5,088,806 to McCartney et al. ("McCartney"). Claim 56 has been cancelled and, therefore, is not at issue.

(3) Claims 10, 11, 23, 30 and 39 were rejected as being unpatentable under 35 U.S.C. § 103(a) over the combined teachings of APA, Romo and U.S. Patent No. 5,903,251 to Mori et al. ("Mori").

(4) Claims 4, 17, 27 and 34 were rejected as being unpatentable under 35 U.S.C. § 103(a) over the combined teachings of APA, Romo and U.S. Patent No. 7,038,654 to Naiki et al. ("Naiki").

(5) Claims 40, 42, 44-46 and 49-54 were rejected as being unpatentable under 35 U.S.C. § 103(a) over the combined teachings of McCartney and APA.

(6) Claim 41 was rejected under 35 U.S.C. § 103(a) over the combined teachings of McCartney, APA and Romo. This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.

(7) Claim 43 was rejected under 35 U.S.C. § 103(a) over the combined teachings of McCartney, APA and Naiki. This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.

(8) Claims 47 and 48 were rejected under 35 U.S.C. § 103(a) over the combined teachings of McCartney, APA and Mori. This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.

According, Appellant hereby requests review of each of these grounds of rejection in the present appeal.

### Argument

As the Answer correctly notes, a “first and main” issue in this appeal is whether the Examiner can rely on Appellant’s Fig. 1 as admitted prior art. (Answer, p. 23). As Appellant has previously stated on the record, there was absolutely no intention on the part of Appellant to admit the subject matter in Fig. 1 as “prior art.”

According to the MPEP, “[a] statement by an applicant in the specification or made during prosecution identifying the work of another as ‘prior art’ is an admission which can be relied upon for both anticipation and obviousness determinations.” MPEP § 2129(I) (citing *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354, 66 USPQ2d 1331, 1337 (Fed. Cir. 2003)). Thus, an applicant must identify subject matter as (1) “the work of another” and (2) “prior art” to constitute an admission on which a rejection may be based. The Appellant in this case has done neither.

First, Appellant notes that the citation above actually quotes the specific phrase “prior art” to describe an admission that can be used in a rejection. This would imply that for such an admission to be applied in support of a rejection it should be clearly identified as “prior art” by the patent applicant.

Referring directly to the *Riverwood* opinion cited by the MPEP, we find the following further explanation.

This court and its predecessor have held that a statement by an applicant during prosecution identifying certain matter not the work of the inventor as “prior art” is an admission that the matter is prior art. *In re Nomiya*, 509 F.2d 566, 571 n. 5, 184 USPQ 607, 611 n. 5 (CCPA 1975). In *Nomiya*, the applicants filed a patent application containing two figures labeled as “prior art” and described as such in the specification. *Id.* at 570-71, 184 USPQ at 611. The examiner rejected the pending claims as obvious over a U.S. patent in light of the two figures. *Id.* The applicants argued that the figures could not constitute prior art absent a statutory basis in section 102. This court’s predecessor disagreed: “By filing an application containing Figs. 1 and 2, labeled prior art, *ipsissimis verbis*, and statements explanatory thereof appellants have conceded what is to be considered as prior art in determining obviousness of their

improvement." *Id.* at 571, 184 USPQ at 611-12 (footnote omitted). Similarly, in *Fout*, an applicant's admission of actual knowledge of the prior invention of another, which was described in the preamble of a Jepson claim, was held to constitute an admission that the described invention was prior art to the applicant. 675 F.2d at 301, 213 USPQ at 534.

(*Riverwood* at paragraph 0046).

In the present case, Appellant has not labeled "*ipsissimis verbis*" or otherwise designated or described Fig. 1 as "prior art," as in *Nomiya*. There is no Jepson claim at issue, as in *Fout*, where prior art is likewise explicitly identified. Consequently, Appellant respectfully submits that no "admission" of "prior art" as required by the applicable case law has been made as to Fig. 1 of this application.

Second, the Appellant has nowhere identified the subject matter of Fig. 1 as "the work of another." Rather, Fig. 1 is an original work produced under the direction of the inventors listed in this application for this application. It was not taken or copied from any prior source. Consequently, it should be considered as representing the thoughts and work product of the listed inventors.

As noted, the case law cited above appears to appropriately require that an applicant make an affirmative statement "identifying certain matter not the work of the inventor as 'prior art.'" (*Id.*) Consequently, Appellant believes that an admission of prior art on the part of a patent applicant should include an actual *admission* made by the patent applicant. However, in the present case, the Examiner is attempting to put words in the mouth of the Appellant. The Examiner is attempting to create the appearance of an admission of prior art where none was made or intended and to sweep all of Fig. 1 into that manufactured admission of prior art.

As previously noted, the discussion of Fig. 1 is in the "Detailed Description" portion of Appellant's specification, not the background. Moreover, Appellant's specification

expressly states that “Fig. 1 is a cross-sectional view illustrating a DLD pixel cell *according to one exemplary embodiment.*” (Appellant’s specification, paragraph 0006) (emphasis added). This same language is used to describe all the other figures of the application which are clearly illustrative of the invention and not prior art.

The Answer continues to harp on a single phrase in paragraph 0023 of Appellant’s specification (Answer, p. 23) in which it is noted that DLD’s similar to, or like, that shown in Fig. 1 have traditionally been used but that “an undesirable color shift may occur as the temperature of the DLD varies during operation.” (Appellant’s specification, paragraph 0023). Clearly, it is insufficient to attempt to read into this lone statement that *every* detail of Fig. 1 must have been “traditionally used” and therefore be admitted prior art.

Apparently appreciating that this one single, ambiguous statement is clearly outweighed by the description of Fig. 1 as an “exemplary embodiment” in paragraph 0006 and the placement of the discussion of Fig. 1 in the Detailed Description of the invention, the Answer further argues that “the entire discussion from paragraphs 18-24 discusses the basics of Figure 1 and subsequently describes the problems that are associated with the Figure 1 configuration, including temperature induced color shift.” (Answer, p. 23). This, however, in no way implies that Fig. 1 was prior art. Rather, it merely demonstrates that Appellant had studied the design of Fig. 1 and recognized potential issues with that configuration. This does not mean that the configuration of Fig. 1 was known to anyone else besides the Appellant or was prior art. The Examiner is reading such into the record without evidentiary support.

The Answer continues. “This discussion of Figure 1, regardless of the section it is positioned under, seems to be a very clear description of the relevant prior art and the problems associated with it.” (*Id.*). However, there is, again, no evidentiary basis for this conclusion.



Fig. 1 is readily explained as follows. For the sake of clarity, the Appellant has made the effort in this application to thoroughly describe the thinking of the inventors that lead up to the invention. Again, this is the thinking of the inventors. It is generally thought that such an explanation will help readers better understand and appreciate the invention. Such an explanation is not an admission of prior art because it is the original thought of the inventors about the art, recognition of a possibility to improve the art and an introduction to the inventors' improvements. Such should be strongly encouraged in a patent application.

Instead, the current Examiner seeks to penalize the Appellant for providing such information in the present patent application. If the Examiner is allowed to so abuse the information provided by a patent applicant, the inevitable result will be less informative, less intelligible patent applications. A patent applicant should not be held to have admitted prior art unless that applicant has actually made an admission of prior art as defined by the case law above.

The Answer further argues that the Examiner does not feel that "Applicants have met their burden to show that Figure 1 is Applicants' 'own work product' (MPEP § 2129). Applicants' have only disclosed that Figure 1 was a foundational work and design in addressing the temperature variation." (Answer, p. 24). This is unreasonable for several reasons.

First, as noted above, Fig. 1 is an original work produced under the direction of the inventors listed in this application for this application. It was not taken or copied from any prior source. Consequently, it should be considered as representing the thoughts and work product of the listed inventors.

Moreover, Appellant respectfully submits that the Appellant has no legal burden to show that each portion of an application is the applicants' own work product. Such is

presumed to be the case. Rather, the burden is properly on the Examiner to demonstrated what the prior art teaches and to establish that any work relied upon in a rejection is, in fact, prior art. *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The Examiner has failed to carry this burden in this case, and improperly here attempts to shift the burden to the Appellant.

The Answer further alludes to “an Examiner Initiated Interview [in which] the Applicants' representative refused to further clarify the language to expressly describe Figure 1 as Applicants' own work.” (Answer, p. 24). In the interview referenced, the Examiner asked the undersigned for a statement on the record that “*everything*” in Fig. 1 is the work of the Applicant. The undersigned explained that such a blanket statement would be inappropriate. For example, Fig. 1 illustrates voltage sources. Applicant does not claim to have invented voltage sources. Consequently, the undersigned had to decline the request of the Examiner.

The undersigned did not, however, in any degree, step away from the position that Fig. 1, taken as a whole, represents the foundational work and thinking of the inventors in this application, that it was prepared under the direction of the inventors and not taken from an existing source and was included to better help readers appreciate the issues discovered and framed by the inventors as a preface to resolution of those issues.

Therefore, Fig. 1, in its entirety, should not be considered as admitted prior art and should not be considered as supporting the rejections made in the final Office Action.

(1) Claims 1, 12, 13, 24 and 31 are patentable over the APA and Romo:

This rejection fails because Appellant has not “admitted” as prior art the subject matter of Fig. 1 so designated erroneously by the final Office Action.

Nevertheless, even if Fig. 1 were established as representing valid prior art, the teachings of Fig. 1 and Romo still fail to render obvious the subject matter recited in Appellant's claims.

Claim 1:

Specifically, claim 1 recites:

A diffractive light device (DLD) comprising:  
a substrate;  
a force plate disposed on said substrate, said force plate configured to produce an electrostatic force in response to an applied voltage;  
a pixel plate supported by a flexure adjacent to said force plate, wherein a position of said pixel plate is controlled by said electrostatic force and by said flexure coupled to said pixel plate to display a pixel of an image;  
a temperature sensor thermally coupled to said flexure, without affecting movement of said flexure, and outputting a thermal measurement indicative of a temperature of said flexure; and  
a circuit that generates and applies a temperature compensated voltage to said force plate in response to said thermal measurement produced by said temperature sensor.

Thus, claim 1 recites a DLD that comprises a force plate that controls, by electrostatic force, the position of a pixel plate supported by a flexure. Claim 1 further recites a temperature sensor "outputting a thermal measurement indicative of a temperature of said flexure" and "a circuit that generates and applies a temperature compensated voltage to said force plate in response to said thermal measurement produced by said temperature sensor." Moreover, the "temperature sensor [is] *thermally coupled to said flexure.*" (Emphasis added). This subject matter is outside the scope and content of the prior art.

The Answer states that "Applicants argue that Romo and Figure 1 are not analogous art." (Answer, p. 24). Appellant has made no such argument. Rather, Appellant has simply pointed out Fig.1 is *not* actually admitted prior art.

Appellant's point is that neither the APA nor Romo teach or suggest the claimed temperature sensor *in connection with a flexure supporting a pixel plate of a DLD*. Specifically, neither teaches or suggests “a temperature sensor thermally coupled to said [pixel plate] flexure, without affecting movement of said flexure, and outputting a thermal measurement indicative of a temperature of said flexure.”

According to the Answer, “Applicants' do not seem to completely grasp the nature of the combination. It is not necessary that a single reference disclose all of the limitations in a claim. What is required is that one of ordinary skill of the art when presented with the two pieces of prior art would have suggested that the artisan combine them in a manner to obviate all of the claim limitations. This requirement is more than satisfied by these two pieces of prior art.” (Answer, p. 25). The Answer is mistaken.

First, there is no combination to be discussed if Fig. 1 is *not* considered to be admitted prior art, which it is not. Second, the Examiner does not seem to appreciate that just because multiple references are cited, the combination somehow synergistically includes teachings that are not in either reference. This is simply an inadequate rejection.

Neither Romo nor the APA teaches or suggests “a temperature sensor thermally coupled to said [pixel plate] flexure, without affecting movement of said flexure, and outputting a thermal measurement indicative of a temperature of said flexure.” Where then does such subject matter come from in the prior art? The Answer does not address these features of claim 1 or indicate how or where the cited prior art actually teaches this subject matter. Consequently, the Examiner only arrives at a rejection of claim 1 through an unsupported leap over the novelty of Appellant's claims.

Under the analysis required by *Graham v. John Deere*, 383 U.S. 1 (1966), the scope and content of the prior art must first be determined, followed by an assessment of the

differences between the prior art and the claim at issue. In the present case, no prior art cited teaches or suggests “a temperature sensor thermally coupled to said [pixel plate] flexure, without affecting movement of said flexure, and outputting a thermal measurement indicative of a temperature of said flexure” and “a circuit that generates and applies a temperature compensated voltage to said force plate in response to said thermal measurement produced by said temperature sensor.” This subject matter is outside the scope and content of the cited prior art and provides advantages that were not provided in the cited prior art. Given these significant differences between the scope of the prior art and the claimed subject matter, the rejection of claim 1 and its dependent claims should not be sustained.

For any and all of these reasons, the cited prior art cannot support a rejection of claim 1 under 35 U.S.C. § 103(a) and *Graham*. Therefore, the rejection of claim 1 and its dependent claims should not be sustained.

Claim 12:

Claim 12 recites:

A micro-electro mechanical system (MEMS) comprising:  
a substrate;  
a pixel plate coupled to said substrate;  
a force plate disposed on said substrate adjacent to said pixel plate, wherein said force plate is configured to exert an electrostatic force on said pixel plate; and  
a temperature sensor thermally coupled to said MEMS;  
wherein said MEMS is configured to adjust said electrostatic force in response to a temperature measurement performed by said temperature sensor.

Thus, claim 12 recites “a force plate disposed on said substrate adjacent to said pixel plate, wherein said force plate is configured to exert an electrostatic force on said pixel plate” and “wherein said MEMS is configured to adjust said electrostatic force in response to a temperature measurement performed by said temperature sensor.”

This subject matter is not taught by either the APA or Romo. Neither of the references teach or suggest the claimed adjustment of an electrostatic force exerted on a pixel plate by a force plate in response to a temperature measurement. The Examiner arrives at the opposite conclusion only using impermissible hindsight.

The Answer responds that “so long as it [the rejection] takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.” (Answer, pp. 25-26). If this is so, the Answer must still show where the prior art teaches or suggests the claimed adjustment of an electrostatic force exerted on a pixel plate by a force plate in response to a temperature measurement. This, the Answer has not done.

The APA, which should not even be available to support this rejection, teaches nothing about a temperature sensor. Romo teaches a temperature sensor, but applied to a cantilevered waveguide. None of the prior art, taken alone or in combination, teach or suggest the claimed adjustment of an electrostatic force exerted on a pixel plate by a force plate in response to a temperature measurement. This concept comes exclusively from Appellant’s specification, which the Answer acknowledges is improper. (*Id.*). Respectfully, “it is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious”; *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132,1141, 227 USPQ 543, 550 (Fed. Cir. 1985); *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)

Under the analysis required by *Graham v. John Deere*, 383 U.S. 1 (1966), the scope and content of the prior art must first be determined, followed by an assessment of the

differences between the prior art and the claim at issue. In the present case, no prior art cited teaches or suggests the claimed MEMS “wherein said MEMS is configured to adjust said electrostatic force [on a pixel plate] in response to a temperature measurement performed by said temperature sensor.” This subject matter is outside the scope and content of the cited prior art and provides advantages that were not provided in the cited prior art.

For at least these reasons, the rejection of claim 12 and its dependent claims should not be sustained.

Claim 24:

Independent claim 24 recites:

An image display device comprising:  
a system controller;  
a variable voltage source communicatively coupled to said system controller;  
and  
an array of DLDs communicatively coupled to said variable voltage source, each DLD of said DLD array including a substrate, a force plate disposed on said substrate, said force plate configured to produce an electrostatic force in response to a voltage applied by said voltage source, a pixel plate disposed adjacent to said force plate, wherein a position of said pixel plate is determined by said electrostatic force and a flexure coupled to said pixel plate, and a temperature sensor thermally coupled to said DLD so as to determine a temperature of said flexure, wherein said image display device is configured to vary said electrostatic force in response to a temperature measurement performed by said temperature sensor.

In contrast, as demonstrated above, the cited prior art references do not include or provide for a temperature sensor in connection with a pixel plate, “wherein said image display device is configured to vary said electrostatic force [*positioning the pixel plate*] in response to a thermal measurement performed by said temperature sensor.” Moreover, the teachings of the cited prior art do not include or provide for a temperature sensor “thermally coupled to said DLD so as to *determine a temperature of said flexure*.” (Emphasis added). For at least these reasons, the rejection of claim 24 and its dependent claims should not be sustained.

Claim 31:

Claim 31 recites:

A diffractive light device (DLD) comprising:  
a substrate;  
a means for producing an electrostatic force disposed on said substrate,  
wherein said electrostatic force is produced in response to an applied voltage;  
a means for diffracting light disposed adjacent to said electrostatic force  
producing means, wherein a position of said light diffracting means is influenced by a  
means for flexing coupled to said means for diffracting light; and  
a means for sensing temperature thermally coupled to said DLD, wherein said  
means for sensing temperature is configured to produce a temperature compensated  
voltage on said means for producing an electrostatic force in response to a thermal  
measurement.

In contrast, as demonstrated above, the teachings of the cited prior art do not include or provide for a means for sensing temperature thermally coupled to a DLD, “wherein said means for sensing temperature is configured to produce a temperature compensated voltage on said means for producing an electrostatic force in response to a thermal measurement.” For at least these reasons, the rejection of claim 31 and its dependent claims should not be sustained.

(2) Claims 2, 3, 5-8, 14-16, 18-21, 25, 26, 28, 29, 32, 33, 35-38 and 63 are patentable over the APA, Romo and McCartney:

This rejection is respectfully traversed for the reasons given above with respect to the patentability of the independent claims 1, 12, 24 and 31, and for the following additional reasons.



Claim 2:

Claim 2 recites:

an offset voltage generator, wherein said offset voltage generator is configured to generate a temperature compensated offset voltage based on said thermal measurement; and

a summing element for adding said offset voltage to a reference voltage to produce said temperature compensated voltage.

In rejecting claim 2, the Answer relies on McCartney, which is directed to a liquid crystal display (LCD). Depending on an initial ambient temperature, McCartney teaches a temperature sensor and “a digital signal that identifies the voltage needed, at the temperature determined by the temperature sensing element to obtain the correct optical transmission,” i.e., the desired response time in the LCD. (McCartney, col., 4, lines 24-33). Appellant has noted that the driving signal for a cold liquid crystal would clearly be subject to different parameters, considerations and equations, than would a voltage on a force plate in a DLD. In response, the Answer retreats to a more abstract view of the prior art. According to the Answer, McCartney is relevant because “McCartney states that his invention related ‘generally to display technology’ (col. 1, lines 8-9).” (Answer, p. 26). This in no way addresses the fundamental point that claim 2 is a device for compensating for the temperature of flexure in a DLD, and McCartney is a device for warming a cold LCD. None of the other cited prior art references say anything about the claimed offset voltage generator.

Consequently, Appellant believes the Action thus fails to make out a *prima facie* case of obviousness with respect to claim 2. For at least this additional reason, the rejection of claim 2 should not be sustained.

Claim 3:

Claim 3 recites “wherein said temperature compensated offset voltage is configured to compensate for a change in spring force exerted on said pixel plate by said flexure at a measured temperature.” Claims 14, 25 and 33 recites similar subject matter.

As demonstrated above, to the extent that McCartney teaches an offset voltage generator, that offset voltage is created “to obtain the correct optical transmission” of the liquid crystal material based on temperature. (McCartney, col., 4, lines 24-33). This clearly has nothing to do with “a change in spring force exerted on said pixel plate by said flexure.

In response, the Answer, once again, merely characterizes the prior art more abstractly to avoid addressing the detail recited in claim 3. (Answer, p. 27). None of the cited references teach or suggest the claimed temperature compensated offset voltage “configured to compensate for a change in spring force exerted on said pixel plate by said flexure at a measured temperature.” As before, the Answer cites several references, none of which teach this subject matter, and hopes that the claimed features will somehow appear in the mix. It should also be remembered that, for the reasons given above, Fig. 1 should not be included in this mishmash of prior art.

The result should be clearly insufficient to support a rejection of claim 3. For at least this additional reason, the rejection of claims 3, 14, 25 and 33 should not be sustained.

Claim 8:

Claim 8 recites:

wherein said summing element comprises a summing circuit, wherein said summing circuit is configured to combine said temperature compensated offset voltage with each of a plurality of color specific voltages to produce a temperature compensated voltage corresponding to each of a plurality of colors produced by pixel elements of said DLD.

Claim 21 recites similar subject matter.

In contrast, the cited prior art utterly fails to teach or suggest the claimed summing circuit “configured to combine said temperature compensated offset voltage with each of a plurality of color specific voltages to produce a temperature compensated voltage corresponding to each of a plurality of colors produced by different pixel elements of said DLD.” This subject matter is entirely outside the scope and content of the prior art.

The Answer makes no substantive response to these arguments. (Answer, p. 27). For at least this additional reason, the rejection of claims 8 and 21 should not be sustained.

Claim 15:

Claim 15 recites “an offset voltage generator, wherein said offset voltage generator is configured to vary said electrostatic force based on said temperature measurement.” As demonstrated above, to the extent that McCartney teaches an offset voltage generator, that offset voltage is the voltage “to obtain the correct optical transmission” of the liquid crystal material based on temperature. (McCartney, col., 4, lines 24-33). This clearly has nothing to do with “vary[ing] said electrostatic force” of a MEMS force plate as recited in claim 15.

The Answer makes no substantive response to these arguments. (Answer, p. 27). For at least this additional reason, the rejection of claim 15 should not be sustained.

Claim 16:

Claim 16 recites “wherein said temperature compensated offset voltage generator is configured to produce an offset voltage to compensate for said variation in spring force provided by said flexure.” As demonstrated above, the cited prior art does not teach or

suggest an offset voltage generator that “compensate[s] for said variation in spring force provided by said flexure.”

The Answer makes no substantive response to these arguments. (Answer, p. 27). For at least this additional reason, the rejection of claim 16 should not be sustained.

Claim 63:

Claim 63 recites “an array of corresponding pixel and force plates; and an offset voltage generator that applies an offset voltage based on said temperature measurement to a global MEMS bias signal used by said force plates.” As demonstrated above, the cited prior art does not teach or suggest an offset voltage generator that “applies an offset voltage based on said temperature measurement to a global MEMS bias signal used by said force plates.” The LCD of McCartney does not include or have relevance to an array of pixel and force plates or an offset voltage generator operating with a global MEMS bias signal used by such force plates.

The Answer makes no substantive response to these arguments. (Answer, p. 27). For at least this additional reason, the rejection of claim 63 should not be sustained.

(3) Claims 10, 11, 23, 30 and 39 are patentable over the APA, Romo and Mori:

This rejection is respectfully traversed for the reasons given above with respect to the patentability of the independent claims 1, 12, 24 and 31, and for the following additional reasons.

Claim 11:

Claim 11 recites “wherein said temperature sensor is configured to measure an average temperature of flexures in an array of DLDs.” Claim 30 recites similar subject matter.

The only “prior art” reference that mentions flexures is Fig.1 of the APA, which, as noted above, should actually be considered in support of this rejection. None of the cited prior art references teach or suggest measuring the average temperature of flexures in an array of DLDs.

Again, the Answer merely abstracts the prior art to avoid addressing the detail of claim 11 and then attempts to read teachings into the swirl of prior art citations that are not actually there. (Answer, p. 27). For at least this additional reason, the rejection of claim 11 and 30 should not be sustained.

(4) Claims 4, 17, 27 and 34 are patentable over the APA, Romo and Naiki:

This rejection is respectfully traversed for the reasons given above with respect to the patentability of the independent claims 1, 12, 24 and 31, and for the following additional reasons.

Claim 4:

Claim 4 recites:

wherein said offset voltage generator comprises:  
a buffer amplifier;  
a low pass filter electrically coupled to said buffer amplifier; and  
a scaler/offset amplifier electrically coupled to said low pass filter.

The other claims, 17, 27 and 34, recite similar subject matter.

In this regard, the Answer refers to a digital averaging circuit (13). Naiki describes the circuit (13) as a “noise filter.” (Naiki at col. 11, lines 46-49). The Answer argues that a noise filter is inherently “acting equivalently to a low pass filter.” (Answer, p. 28). This is unreasonable. If a noise filter is acting as a low pass filter, then all the noise in the low pass band is passed and the noise filter is largely ineffective. It is simply unreasonable to equate a noise filter with a low pass filter.

Thus, the cited prior art has not been shown to teach or suggest the offset voltage generator with a low pass filter as in claim 4 and the other noted claims. For at least this additional reason, the rejection of these claims should not be sustained.

(5) Claims 40, 42, 44-46 and 49-54 are patentable over McCartney and the APA:

This rejection is respectfully traversed for the reasons given above with respect to the patentability of the independent claims 1, 12, 24 and 31, and for the following additional reasons.

Claim 40:

Claim 40 recites:

A method of compensating for thermal effects in a DLD comprising:  
measuring a temperature of said DLD;  
generating a temperature compensated offset voltage associated with an effect  
said temperature will have on said DLD; and  
producing a temperature compensated voltage on said DLD using said  
temperature compensated offset voltage, wherein applying said temperature  
compensated voltage to said DLD compensates for said thermal effects.

With regard to claim 40, Appellant wishes to note that: “The materials on which a process is carried out must be accorded weight in determining the patentability of a process. *Ex parte Leonard*, 187 USPQ 122 (Bd. App. 1974).” (See MPEP § 2116).

As noted above, there actually is no admitted prior art in Appellant's specification. Consequently, APA cannot support any rejection of Appellant's claims.

Moreover, McCartney is directed to a liquid crystal display and measures the temperature of the liquid crystal material. (McCartney, col. 4, lines 9-12). Thus, McCartney also does not teach or suggest "measuring a temperature of [a] DLD."

Consequently, McCartney cannot teach or suggest any of the subject matter of claim 40. Neither teaches "measuring a temperature of [a] DLD." Neither teaches "generating a temperature compensated offset voltage associated with an effect said temperature will have on said DLD." Neither teaches "producing a temperature compensated voltage on said DLD using said temperature compensated offset voltage, wherein applying said temperature compensated voltage to said DLD compensates for said thermal effects."

The Answer fails to respond to these arguments. (Answer, p. 28). Accordingly, for the foregoing reasons, the rejection of claim 40 should not be sustained.

Claim 50:

Claim 50 recites:

A processor readable medium having instructions thereon that are executable by a processor for:  
sensing a temperature change of a DLD; and  
modifying a voltage provided to said DLD in response to said sensed temperature change.

In contrast, as demonstrated above, the teachings of McCartney fail to teach or suggest any of this subject matter. No reference teaches or suggests executable instructions on a processor readable medium for "sensing a temperature change of a DLD" or for "modifying a voltage provided to said DLD in response to said sensed temperature change."

The Answer fails to respond to these arguments. (Answer, p. 28). Therefore, for at least these reasons, the rejection of claim 50 should not be sustained.

(6) Claim 41 is patentable over McCartney, the APA and Romo:

This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.

(7) Claim 43 is patentable over McCartney, the APA and Naiki:

This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.

(8) Claims 47 and 48 are patentable over McCartney, the APA and Mori:

This rejection should not be sustained for at least the same reasons given above with respect to the patentability of claim 40.



In view of the foregoing, it is submitted that the final rejection of the pending claims is improper and should not be sustained. Therefore, a reversal of the Rejection of March 24, 2008 is respectfully requested.

Respectfully submitted,

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